Release Notes for WS5100 v3.3.4.0-009R & ADP5131 v2.2.4.0-006R

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1 Introduction

Version 3.3.4.0-009R is a maintenance update to the major software release v3.3 on the WS5100 wireless switch platform based on the Wireless Next Generation (Wi-NG) architecture. V3.3.4 includes fixes for certain defects that have been reported by customers and/or found internally.

V3.3.4.0 is supported only on the WS5100 wireless switch.

When upgrading to this major release at a customer site, it is recommended that it be applied to one WS5100, ensure that the switch is run through basic functionality tests to ensure that the customer network is operational, and only then upgrade all the other WS5100 systems.

2 RF Firmware Versions Supported

Access Point/Access Port	Firmware Version
AP300	00.02-31
Layer 3 AP300	01.00-2330r
WIPS Sensor Image for AP300	4.5.1.7
AP100	02.05-00
AP4131	07.00-08
AP4131 Revert	00.00-00
Adaptive AP Image for AP-5131 (ADP image)	2.2.4.0-006R

For the prior Wi-NG releases on the WS5100, please see compatibility matrix with Adaptive APs below:

WS5100	AP5131 802.11 a/b/g	AP7131 802.11 a/b/g/n
V3.1	v2.0	N/A
V3.2	v2.1	N/A
V3.3.1	ADP v2.2.1 (Separate image)	N/A
V3.3.2	ADP v2.2.2 (Separate image)	N/A
V3.3.3	ADP v2.2.3 (Separate image)	N/A

Note: Please upgrade Adaptive AP 51X1 to v2.2.4 to work with v3.3.4 on the WS5100. The ADP-51X1 adaptive image is packaged within the download bundle of the Wireless switch images on http://support.symbol.com.

3 Installation Guidelines

For accessing the Graphical User Interface (GUI) of the WS5100 switches, the following browsers (and Java versions) are supported:

- Internet Explorer 6.0, 7.0 on Windows 2000, XP (JRE 1.4.2)
- Mozilla 1.4.3 on RedHat Linux (tested with JRE 1.5)
- Firefox 0.8 or higher on Windows 2000, XP (JRE 1.4.2)
- Firefox 1.0 or higher on RedHat Linux (tested with JRE 1.5)

3.1 Upgrade Information

This build may be installed over the following software versions:

- 1.4.1.0-014R
- 1.4.2.0-005R
- 1.4.3.0-012R
- 2.0.0.0-034R
- 2.1.0.0-029R
- 2.1.1.0-006R
- 2.1.2.0-010R
- 2.1.3.0-010R
- 2.1.4.0-001R
- 3.0.0.0-267R
- 3.0.1.0-045R
- 3.0.2.0-008R
- 3.0.3.0-003R
- 3.0.4.0-004R
- 3.1.0.0-045R
- 3.1.1.0-007R
- 3.2.0.0-040R
- 3.3.1.0-003R
- 3.3.2.0-010R
- 3.3.3.0-006R

V3.x.x cannot be installed over v1.1.x or v1.2.x software releases. Please upgrade to v1.4.x or later releases prior to upgrading to v3.x.x.

3.1.1 Detailed Firmware Upgrade Procedure

This section outlines the upgrade procedure to v3.3.x applicable if the RF switch has a beta release of v3.3.x or released v3.x installed.

The method described in this section uses the Command Line Interface (CLI) and GUI and the Auto-Install procedures. To log into the CLI, either SSH, Telnet or serial access can be used (whichever exists).

Upgrade Process from v1.4.x/v2.x:

The first step in the upgrade process is to save and convert the existing v1.4.x or v2.x configurations. There is a Windows based configuration utility provided as part of this release to help in converting the older configurations to the newer (v3.x) format.

Install the configuration upgrade utility ("cfgupgrade-1.0.23-setup.exe") on a Windows System and follow these steps:

- Using TFTP or FTP copy the configuration file that you want to convert from the WS5100 wireless switch to the Windows System where the conversion utility is installed.
- On the Windows System click on "WS5100 Configuration Upgrade" icon, select the config file copied on to the Windows system and run it.
- A folder with the same name as the config file will be created.
- The folder will contain the converted startup-config file in v3.x format along with other log files.
- Using TFTP or FTP copy this startup-config file back to the WS5100 that you want to upgrade.

Please note that some of the Network access policies configuration items from older releases may not be converted into the newer format. In these cases it is recommended to build the new v3.x configuration from scratch.

Running the pre-upgrade script (preUpgradeScript) is recommended prior to upgrade to clean up the DOM to ensure sufficient memory for the upgrade. The pre-upgrade script and the upgrade have to be done independently.

1. Copy the appropriate pre-upgrade script file to the switch (using FTP or TFTP):
2. Enter "Service" mode CLI
3. "execute" the script file.

The steps to upgrade to v3.3.4 from either v1.4.x or v2.x are as follows. The method described in this section uses the Command Line Interface (CLI) and the Auto-Install procedures. To log into the CLI, either SSH, Telnet or serial access can be used (whichever exists).

4. First convert and save your existing configuration files using the Configuration Conversion Instructions (outlined above)
5. Copy the appropriate upgrade image file to the switch:
   - For upgrading from v2.x copy (via FTP or TFTP) the v2.x image upgrade file (WS5100-3.3.4.0-009R.v2).
   - For upgrading from v1.4.x copy (via FTP or TFTP) the v1.4.x image upgrade file (WS5100-3.3.4.0-009R.v1)
6. Enter "Service" mode CLI
7. "execute" the copied image file.
8. Restart the switch.
   - From CLI the command is "reload".

Upgrading from a previously released v3.x Release or beta build (v3.x.0.0-xxxB)

1. **Before you begin:**
   To update an existing WS5100 to version 3.3.4.0-009R, the WS5100 must be using version 3.3.3.0-006R or earlier release. When upgrading from engineering build – you might need to install SigningCert.patch first. Please ensure the patch is properly installed from the output of the CLI command "show version". The Patch file name should appear with the current f/w version string. The entry for the installed patch should also be displayed under the Patch section of the Switch-> Firmware screen in the applet.

2. **Before you begin (strongly recommended):**
   As a precaution, it is recommended that the current running configuration is saved and copied to a FTP/TFTP server before performing the upgrade.

3. **Copy the new system image file to your FTP server.**

4. **Upgrade to new system image:**
   From CLI: WS5100#**upgrade ftp://username:password@<ip address of server>/<name of file>**
   Or
   From GUI: **Switch->Firmware->Update Firmware**.

5. **Verify the Upgrade**
   After the WS5100 reboots, from the CLI, check the Software Ver. for 3.3.4.0-009R.

Downgrade Process for the WS5100 from this service release

Use steps 4 and 5 from upgrade process to downgrade this service release to prior release.

Upgrading ADP5131 to v2.2.4

The Wireless Switch can upgrade the Adaptive AP's either manually or automatically. For either procedure, please upgrade the wireless switch to the relevant firmware version and then follow the steps below:

For auto-upgrade of Adaptive APs

By default, auto-upgrade is enabled on the WS5100.

1. The Wireless switch has to host the file for the AP to download and upgrade. Please copy the Adaptive AP image files onto the switch using ftp/tftpserver.

2. Please switch to wireless mode. Then, configure the path to the Adaptive AP image file using command:
   WS5100(config-wireless)# ap-image ap5131 <path where the image file is copied>

Note: When Adaptive AP initiates adoption, the wireless switch pushes the details of the image to be upgraded to the Adaptive AP. The Adaptive AP downloads image from wireless switch and reinitiates adoption. This process is transparent to the user.

For a manual upgrade of the Adaptive APs

1. Please ensure that auto upgrade is disabled on the switch and all the Adaptive APs are adopted by 3.3.4
   WS5100(config-wireless)#no aap auto-upgrade enable

2. Manually upgrade from the switch all Mesh client bridges (ADP5131)
   WS5100(config-wireless)#aap fwupdate n (where n is the ap index for the mesh client bridge) enable

3. Manually upgrade the Adaptive AP from the wireless switch by using the following command:
   WS5100(config-wireless)#aap fwupdate n-x (where n & x are the limits of the ap indexes) enable

The version of the upgrade APs can be verified by:
   WS5100(config-wireless)#Show wireless ap<index of adopted aap> enable

Note: AP5131s can only be upgrade from v2.1 (on the AP) onwards to the follow-on Adaptive images. AP-5131's can be upgraded either manually from switch or Auto upgrade with the exception of Mesh client bridges which should always be manually upgraded.

3.2 Auto-Install Process

Auto Install in v1.x works via the DHCP server. This requires the definition of a Motorola Vendor Class and four sub-options under option 43 namely:

- Option 186 - defines the tftp/ftp server and ftp username, password information
- Option 187 - defines the firmware path and file name
- Option 188 - defines the config path and file name
- Option 189 - defines the WS5100 ip address to where a L3 AP300 RF port or Adaptive AP will be adopted
- Option 190 - defines the cluster config path and file name.

The individual features (config, cluster-config and image) may be enabled separately via the CLI, SNMP or Applet. If a feature is disabled then it will be skipped when Auto install is triggered.

For the static case, where the URLs for the configuration and image files are not supplied by DHCP, the URLs may be specified via the CLI, SNMP or Applet. The CLI may also be used to define the expected firmware image version. If the image version is not specified we will attempt to derive it from the file name, if it can not be derived from the filename then the system will simply attempt to load something other than what it is currently running.

Configuration files are tracked by their MD5 checksum, so if a file is renamed it will still have the same md5 sum. Once a file has been loaded it will not be reloaded, even if the local configuration information is changed.

The requested image file version, if any, is checked against the current version before any attempt is made to load it. If the requested version is the same as the running version then no further action is taken. If the image file version, embedded in the file header, does not match the expected version then no further action will be taken. If the version has not been specified then the header of the image file will be compared to the local version, if they are the same then no further action will be taken.

Please note that once the system has been operating for ten minutes, Auto Install is disabled, though it may still be reconfigured. This is to prevent the system from attempting to re-install each time a DHCP lease is renewed.

Configuring Auto Install via the CLI

There are three compulsory and four optional configuration parameters.

The compulsory parameters are:

- configuration upgrade enable
- cluster configuration upgrade enable
- image upgrade enable

Optional (only for the static case):

- configuration file URL
- cluster configuration file URL
- image file URL
- expected image version

The three enables default to yes, the URLs and the version default to "" (blank)

```
RFS-7000(config)#show autoinstall

feature    enabled      URL

config       yes         --not-set--

cluster cfg  yes         --not-set--

image        yes         --not-set--

expected image version  --not-set--
```

The three enables and the expected version affect any mode of operation; the URLs are only used for the static (non DHCP option) mode.

Enables are set using the **autoinstall <feature>** command:

```
RFS-7000>enable
RFS-7000#conf t
RFS-7000(config)#autoinstall image
RFS-7000(config)#autoinstall config
RFS-7000(config)#autoinstall cluster-config
```

After this configuration, any switch reboot with DHCP enabled on the port will trigger Auto Install, provided the DHCP Server is configured with appropriate options.

After the reboot switch would try to acquire the IP address from DHCP server. The DHCP server will provide the auto-install parameters like image, config and cluster-config files and paths provided if they were configured in DHCP server. Based on the parameters switch downloads the corresponding files from the specified server and reboots the box again in order to take effect the newly downloaded configurations. After the switch auto-reboot, the config and cluster-config (whichever) downloaded as part of auto-install will be applied to the switch becomes switch's running-config.

NOTE: The cluster-config will be applied to the running-config but not auto saved to the startup-config. If user wants to reboot the box again for any reason, must save the running-config using the command "write-memory". Otherwise on the next boot, switch will have only the startup-config and not the cluster-config in running-config.

The "enables" are cleared using the **no autoinstall <feature>**

URLs and the version string are set as text and can be cleared by using an empty pair of double quotes to denote the blank string. In the following example we define the three URLs and the expected version of the image file and then enable all three features for Auto Install.

```
WS5100(config)#autoinstall config url ftp://ftp:ftp@192.9.200.1/WS5100/config

RFS-7000(config)#autoinstall cluster-config url ftp://ftp:ftp@192.9.200.1/
WS5100/cluster-config

WS5100 (config)#autoinstall image url ftp://ftp:ftp@147.11.1.11/ WS5100/images/
WS5100.img

WS5100 (config)#autoinstall image version 3.x.x.0-xxxR
```

```
WS5100 (config)#autoinstall config

WS5100 (config)#autoinstall cluster-config

WS5100 (config)#autoinstall image

WS5100 (config)#show autoinstall

feature    enabled      URL

config       yes        ftp://ftp:ftp@192.9.200.1/S51000/config

cluster cfg  yes        ftp://ftp:ftp@192.9.200.1/WS5100/cluster-config

image        yes        ftp://ftp:ftp@147.11.1.11/WS5100/images/ WS5100.img

expected image version  3.3.4.0-009R
```

Once again, for DHCP option based auto install the URLs will be ignored and those passed in by DHCP will not be stored.

Whenever a string is blank it is shown as **--not-set--**.